



Development of Environmental Principles, Concepts and Standards Alignment

Environmental Principles and Concepts



Environmental Principles

Fundamental truths, which are generally accepted as valid, concerning the functioning and interactions of natural and social systems, and phenomena.

Environmental Concepts

General statements about the environment, based upon a collection of facts, which can be used to explain or illustrate the elements of an environmental principle and be subjected to logical analysis and discussion.

Overarching Principles



The implementation team developed “Overarching Principles” to serve as organizers. They will be used to:

1. Initiate topic-specific discussions by the Technical Working Groups
2. Guide all of the Technical Working Groups so that their output conforms to the overall program structure

The “Overarching Principles” will be revised after the work of the Technical Working Groups to:

1. Make them easily understandable teachers and students
2. Group similar environmental principles and concepts in the products that result from AB1548.

Environmental Topic Groupings



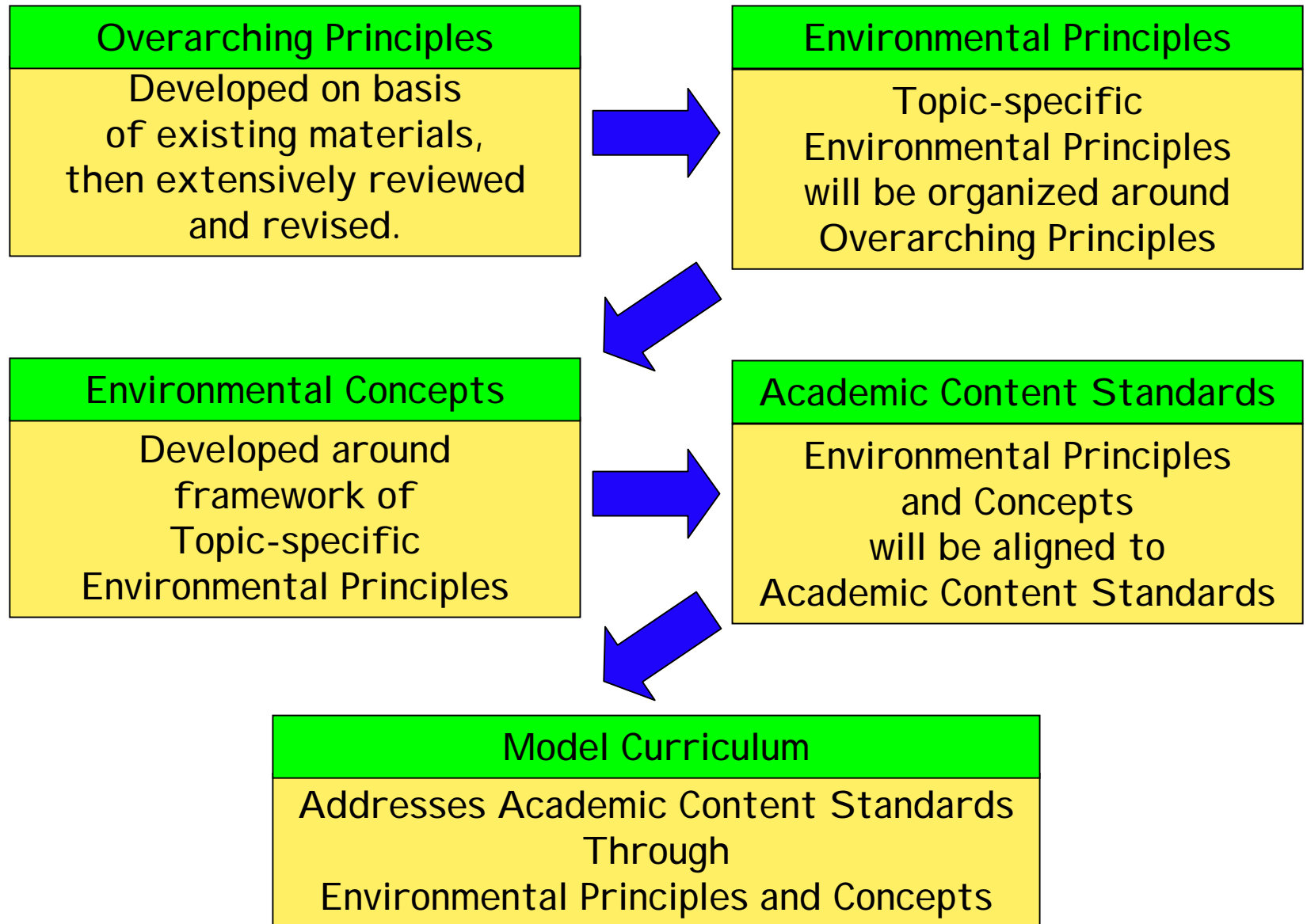
The topics identified in AB 1548 have been organized into a structure that will help assure complete coverage by the Technical Working Groups:

- Coherent groups of environmental topics; and,
- Crosscutting environmental strands

The groupings include:

- Energy
- Water
- Terrestrial Ecosystems
- Marine Ecosystems
- Pollution
- Natural Resources Management

Developmental Process



Overarching
Principles

Environmental
Principles

Environmental
Concepts

Align to
Standards

Model
Curriculum

An example:



Overarching Principle

- The condition and functioning of these systems depends on the condition of their parts and the relationships among them

Technical Working Groups will rewrite the Overarching Principles in terms of their specific environmental topics

Overarching
Principles

Environmental
Principles

Environmental
Concepts

Align to
Standards

Model
Curriculum

An example for water:



Topic-specific Environmental Principle

- I. The sustainable functioning of the water system depends on the quantity of water present in inland waterways, and the condition of the fish and wildlife resources that comprise the overall aquatic ecosystem.

Technical Working Groups will identify the key Environmental Concepts associated with each of their topic-specific Environmental Principles

Overarching
Principles

Environmental
Principles

Environmental
Concepts

Align to
Standards

Model
Curriculum

An example for water:



Key Environmental Concepts

A. The quantity of freshwater available for human use and maintaining the habitats of fish and wildlife is dependent on ...

A. ...

B. ...

Generally limited to three concepts per principle

Standards Alignment Teams will align the key Environmental Concepts with academic content standards in science, history-social studies, English-language arts, and mathematics.

Overarching
Principles

Environmental
Principles

Environmental
Concepts

Align to
Standards

Model
Curriculum



An example for water:

- A. The quantity of freshwater available for human use and maintaining the habitats of fish and wildlife is dependent on ...

Science

1st grade Life Sciences

2. Plants and animals meet their needs in different ways. As a basis for understanding this concept:
- b. *Students know* both plants and animals need water, animals need food, and plants need light.

5th grade Earth Sciences

3. Water on Earth moves between the oceans and land through the processes of evaporation and condensation. As a basis for understanding this concept:
- e. *Students know* the origin of the water used by their local communities.

Overarching
Principles

Environmental
Principles

Environmental
Concepts

Align to
Standards

Model
Curriculum

Model Curriculum



The Model Curriculum is intended to help teachers address the aligned academic content standards in science, history-social studies, English-language arts, and mathematics — in conjunction with students learning the environmental principles and concepts.

Cal/EPA and the CI WMB are working on the development of a specific plan for developing the Model Curriculum with the representatives of the Resources Agency, California Department of Education, State Board of Education, and Office of the Secretary of Education.

Key Participants

Overarching Principles

Develop: Cal/EPA &
CI WMB team
Review: Ed. Partnership
Comment: External experts

Environmental Principles

Develop: Technical
Working Groups
Review: Ed. Partnership
Comment: other stakeholders
through on-line
forums

Environmental Concepts

Develop: Technical
Working Groups
Review: Ed. Partnership
Comment: other stakeholders
through on-line
forums

Alignment to Standards

Develop: Standards
Alignment Teams
Review: Ed. Partnership
Comment: other stakeholders
through on-line
forums

Model Curriculum

Develop: Cal/EPA & CI WMB team
with EE providers and
K-12 Educators
Review: Ed. Partnership
Approval: SBE and CDE

Technical Working Groups



The AB 1548 team is seeking Technical Working Group members who have:

- In-depth technical knowledge of the environmental topics (air, energy, oceans, etc.);
- “Big picture” views of their environmental topic and the ability to identify and prioritize the key learning objectives that should be set during this process;
- Willingness to work with diverse colleagues (other experts, educators, etc.) to solve a problem;
- Good communication and writing skills; and,
- Commitment to participate as described below.

Send recommendations to me no later than April 21st at:

jlieberm@ciwmb.ca.gov

Meeting Schedule for Development of Environmental Principles and Concepts



May 2004

- First Round of Technical Working Group Meetings
Environmental Principles Developed

June 2004

- Education Partnership Reviews Draft Environmental Principles
- Second Round of Technical Working Group Meetings—
Environmental Concepts Developed

July 2004

- Education Partnership Reviews Draft Environmental Concepts

On-line Discussion Forums



Interested individuals and organizations will have the opportunity to review and comment on draft documents throughout the process

This will be made possible through an on-line discussion system that is being established by the Cal/EPA & CI WMB

Interested parties will be able to register for the on-line discussion forum through the AB 1548 website:

<http://www.calepa.ca.gov/Education/AB1548/>